

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION III

841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

Mr. Carl R. York, Chief
Regulation Development Division
Air Quality Planning Program
Air and Radiation Management Administration
Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224

Dear Mr. York:

JUN 09 1997

In early November of last year, we received a letter dated November 1, 1996 from Mr. Robert LaCount of your staff. The letter raises several questions about the municipal solid waste (MSW) landfill NSPS/EG rule and related Title V major source applicability concerns. Because you have informed us that Mr. LaCount is no longer an employee of the Maryland Department of the Environment, Air Quality Program (AQP), we are responding to you on the noted questions.

Prior to addressing the questions, we would like to apologize for the delay in responding to Mr. LaCount's letter. The questions raised in his letter are complex and involve ongoing EPA policy decisions that required EPA headquarters input. The questions and our responses have been reviewed by staff within the Office of Air Quality Planning and Standards (OAQPS), the office of General Counsel, the Office of Enforcement and Compliance Assurance, and the Office of Research and Development.

BACKGROUND

Also, before answering the noted questions, it will be useful to review the definitions of "major source" and "fugitive emissions" under the current 40 CFR part 70 rule and related EPA policy statements and issues.

Definition/Determination of Major Source status The definition of "major source" in section 70.2 of the operating permits rule is divided into three separate parts. Each part corresponds to Clean Air Act (CAA) requirements under 1) section 112, 2) section 302, and 3) part D of title I.

Under section 112, for pollutants other than radionuclides, a major source is any stationary source or group of stationary sources located within a contiguous area and under common control

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that emits or has the potential to emit considering controls, in aggregate, 10 tons/year (tpy) or more of any hazardous air pollutant (HAP) which has been listed-pursuant to section 112(b) of the CAA, 25 tpy or more of any combination of such HAP, or such lesser quantities as the Administrator may establish by rule.

Under section 302, a major source is a stationary source that directly emits or has the potential to emit 100 tpy or more of any air pollutant (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator) .

Under part D of title 1, a major source is a stationary source, located in a) an ozone nonattainment area, and has the potential to emit 100 tpy or more of VOC or NOx in areas classified as "marginal" or "moderate", 50 tpy or more in areas classified as "serious", 25 tpy or more in areas classified as "severe", and 10 tpy or more for areas classified as 'extreme'; b) the ozone transport region and has the potential to emit 50 tpy or more of VOC; and c) serious CO and PM-10 nonattainment areas and has the potential to emit So and 70 tpy, respectively.

Except for the major source definition under section 302, the part 70 major source definitions relating to section 112 and part D sources are silent on the issue of when fugitive emissions must be considered. However, the issue of when fugitives are to be counted in major source determinations is addressed in the March 8, 1994 memorandum entitled "Consideration of Fugitive Emissions in Major Source Determinations," from Lydia Wegman, Deputy Director, OAQPS. (See the enclosed.) To summarize the March 8, 1994 memorandum: under section 112, all fugitive emissions count toward major source applicability; under section 302 and part D of title I, fugitive emissions count toward major source applicability if they are from certain listed source categories. Thus far, twenty-seven categories of sources have been listed for which fugitive emissions must be considered in major source determinations. This list is codified in 40 CFR parts 51 and 52 To date, EPA has not listed MSW landfills as a source category for which non-HAP fugitive emissions need to be considered in major source determinations. (Please see the August 31, 1995 proposed revisions to part 70; 60 FR 45530, and 45547.)

It is important to note, however, that sources may be required to count their fugitive emissions if they are outside of any listed source category, but are nevertheless aggregated with it. For guidance regarding the aggregation of unlisted sources of fugitive emissions with listed sources of fugitive emissions, please refer to the June 2, 1995 memorandum entitled " EPA Reconsideration of Application of Collocation Rules to Unlisted Sources of Fugitive Emissions for Purposes of Title V Permitting," from Lydia Wegman, Deputy Director, OAQPS.

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Given the above definitions of major stationary source, let's now consider when MSW landfill fugitive emissions can reasonably be collected, and therefore are not considered fugitive.

Definition/Determination of Fugitive MSW Landfill Emissions

40 CFR part 70.2 defines fugitive emissions as "emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening." When emissions can reasonably be collected, and therefore are not considered fugitive, is addressed in the enclosed October 21, 1994 memorandum "Classification of Emissions from Landfills for NSR Applicability Purposes," from John Seitz, Director, OAQPS. As this memorandum notes, MSW landfill gas collection and mitigation technologies have evolved significantly since 1987, and use of these systems has become much more common.. Landfills are now constructed and retrofitted with gas collection systems for purposes of energy recovery and to comply with State and Federal regulatory requirements, including section 111 of the CAA. The use of collection technology by certain landfill sources, whether or not subject to 40 CFR part 60, subparts WWW or Cc, State Implementation Plan (SIP) requirements, or New Source Review (NSR) requirements', creates a presumption that collection of emissions at other similar landfills is reasonable. If a collection system could reasonably be designed for a landfill, then the emissions from that landfill are not fugitive emissions and should be considered in major source applicability 2 determinations. The Seitz guidance is applicable to the construction of a new landfill or the expansion of an existing landfill beyond its currently-permitted capacity.

¹For purposes of this letter, NSR is being defined to include both the Prevention of Significant Deterioration and nonattainment NSR programs.

² In the absence of actual emissions data, the preferred method for quantifying MSW landfill emissions is use of EPA's AP-42, Compilation of Air Pollutant Emission Factors.; other estimating procedures may be acceptable, as determined appropriate by the permitting authority. It is important to emphasize, however, that major source status under the CAA is based on what a source emits or has the potential to emit.

QUESTIONS AND ANSWERS

Your questions and EPA's responses are given below:

Q.1 For a MSW landfill that has a design capacity less than 2.5 million megagrams (Mg), should uncontrolled emissions be calculated if the MSW landfill is currently controlled by use of a federally enforceable gas collection and control system?

A.1 Yes. The following three cases provide-selected examples of why there is a need to calculate emissions from landfills below 2.5 million Mg or 2.5 million cubic meters . It is also important to note that for NSR and title V applicability purposes, EPA classifies emissions as being either fugitive or non-fugitive, whether or not they are controlled or uncontrolled.

Case 1 -- An existing landfill with a design capacity below the NSPS/EG applicability thresholds of 2.5 million Mg or 2.5 million cubic meters could still be a major source under section 112, NSR, and/or title V. As you know, all non-fugitive emissions count toward major source applicability determinations. Under section 112, all fugitive emissions count toward major source applicability determinations. And, although MSW landfills are not within a listed source category, non-HAP fugitive emissions from MSW landfills may need to be considered in major source determinations when a landfill is collocated with a listed source. (See the June 2, 1995 memorandum from Lydia Wegman.)

Case 2 -- For an expansion or modification M3 to an existing MSW landfill beyond its currently permitted capacity, new emissions, associated with the collection and control of the new or modified portion of the landfill may result in NOx or CO emissions in excess of the NSR significance or major source levels. These new emissions should be reviewed against the applicable applicability thresholds to determine if major new source review and title V permitting requirements apply.

Case 3 -- Approvable state 111(d) plans are required to include, under 40 CFR 60.25, an inventory of all designated facilities, including emissions data for the designated pollutants [e.g., MSW landfill gas emissions (measured as nonmethane organic compounds.)] This requirement includes MSW landfills below 2.5 million Mg or 2.5 million M3. Where accurate emissions data is already available, or can reasonably be generated without undue expense or effort, states are required to include such data in their state 111(d) plans. However, EPA will allow states, in limited circumstances, to submit emission inventories as part of state plans without requiring that, in all-cases, that emissions data be developed for landfills below the design capacity

³ This includes all landfills, even those which are currently below the design capacity thresholds of 2.5 million Mg or 2.5 million m3.

applicability thresholds noted above. See the enclosed January 27, 1997 memorandum entitled, "Emission Inventories for Existing Municipal Solid Waste (MSW) Landfills with Design Capacities below 2.5 million Mg or 2.5 million M3" from Bruce Jordan, Director, Emission Standards Division and Robert Kellam, Acting Director, Information Transfer and Program Integration Division, OAQPS.

Q.2 When calculating the potential emissions for a MSW landfill, should 100% of the uncontrolled emissions be counted for determining the major source status? or should only the "reasonably controllable" portion of the emissions be counted toward major source status and the remaining amount of "uncontrollable" emissions be considered fugitive emissions?

A.2 As described above, all non-fugitive emissions, i.e., those emissions which can be reasonably collected, are to be counted in determining a source's potential to emit. (Please refer to the October 21, 1994 memorandum from John Seitz.) Fugitive emissions are to be counted toward major source determinations as previously defined. (See response to Question #1.)

Q.3 It is the Department's understanding that existing landfills are generally able to achieve 75-85% collection/control efficiency and that new landfills are able to achieve collection/control efficiencies greater than 85%. If MSW landfills should not count 100% uncontrolled emissions for determining major source status, what percentage should be used?

A.3 In terms of the collection/control efficiencies which you note, please refer to the Compilation of Air Pollutant Emission Factors (commonly known as AP-42), Volume I, Chapter 2, Section 2.4.4.2. This section discusses collection efficiencies at MSW, landfills.

"Emissions from landfills are typically controlled by installing a gas collection system, and destroying the collected gas through the use of internal combustion engines., flares, or turbines. Gas collection systems are not 100 percent efficient in collecting landfill gas, so emissions of CH₄ and NMOCs at a landfill with gas recovery system still occur. To estimate controlled emissions Of CH₄, NMOCs, and other constituents in landfill gas, the collection efficiency of the system must first be estimated. Reported collection efficiencies typically range from 60 to 85 percent, with an average of 75 percent most commonly assumed."

EPA anticipates revising the above-noted collection efficiencies sometime this summer. If site-specific collection efficiencies are available and properly documented, they must be used instead of the 75 percent average. In general, collection efficiencies at landfills will be determined on a case-by-case basis. If you need assistance with a site-specific example, please contact us.

If you have additional questions or need a clarification on any of the above, please feel free to contact James Topsale of my staff at (215)566-2190.

Sincerely,



Makeba A. Morris, Chief
Technical Assessment Section
Air, Radiation and Toxics Division

Enclosures (5) :

1. March 8, 1994 memorandum entitled "Consideration of Fugitive Emissions in Major Source Determinations," from Lydia Wegman, Deputy Director, OAQPS.
2. August 31, 1995 Proposed Revisions to Part 70, 60 FR 45530, and 45547.
3. June 2, 1995 memorandum entitled " EPA Reconsideration of Application of Collocation Rules to Unlisted Sources of Fugitive Emissions for Purposes of Title V Permitting," from Lydia Wegman, Deputy Director, OAQPS.
4. October 21, 1994 memorandum "Classification of Emissions from Landfills for NSR Applicability Purposes," from, John Seitz, Director, OAQPS.
5. January 27, 1997 memorandum entitled, "Emission Inventories for Existing Municipal Solid Waste (MSW) Landfills with Design Capacities below 2.5 million Mg or 2.5 million M3" from Bruce Jordan, Director, Emission Standards Division and Robert Kellam, Acting Director, Information Transfer and Program Integration Division, OAQPS.

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